

	Topic	Information	Example	Sparx clip
1	Fractions, decimals and percentages review	<p>To find a fraction of an amount</p> <p>Divide by the denominator, times by the Numerator</p> <p>To find a percentage of an amount</p> <p>A percentage multiplier is a number which is used to calculate a percentage of an amount or used to increase or decrease an amount by a percentage.</p>	<p>Find $\frac{2}{5}$ of £60 $60 \div 5 = 12$ $12 \times 2 = 24$</p> <p>Work out 34% of £700 $34\% = 34 \div 100 = 0.34$ $700 \times 0.34 = 238$</p> <p>The answer is £238.</p>	U704, U746, U475, U888, U594, U881, U916, U554, U349, U533.
2	Percentage change	$\text{Percentage change} = \frac{\text{Change}}{\text{Original}} \times 100$	<p>The baby's weight has increased from 4.4kg to 5.06kg. Calculate the change. $5.06 - 4.4 = 0.66\text{kg}$</p> $\text{Percentage change} = \frac{0.66}{4.4} \times 100$ $\text{Percentage change} = 15\%$	U554, U349, U773, U671, U286, U278.
3	Theoretical and experimental probability	<p>Theoretical probability</p> $\frac{\text{Number of Favourable Outcomes}}{\text{Total Number of Possible Outcomes}}$ <p>Experimental probability</p> $\frac{\text{Number of Successful Trials}}{\text{Total Number of Trials}}$	<p>Probability of rolling a 4 on a fair 6-sided die = $\frac{1}{6}$.</p> <p>A coin is flipped 50 times and lands on Tails 29 times.</p> <p>The relative frequency of getting Tails = $\frac{29}{50}$.</p>	U510, U683, U881, U916, U552, U349, U166, U580, U280.
4	Calculations with standard form	<p>To add and subtract numbers in standard we can first convert the numbers so that they have the same power of ten.</p> <p>Multiplying and dividing numbers in standard form is where we multiply and divide integers and decimals and apply the laws of indices to simplify the powers of ten. You also need to check that your final answer is in standard form.</p>	<p>Using standard form: $(4 \times 10^3) + (0.6 \times 10^3)$</p> $= (4.6 \times 10^3)$	U330, U534, U235, U694, U926, U264, U290, U161
5	Linear inequalities	<p>Solving inequalities is where we calculate the values that an unknown variable can be in an inequality. Solving inequalities is similar to solving equations, but where an equation has one unique solution, an inequality has a range of solutions.</p>	<p>Solve</p> $2x + 1 < 9$ $2x < 8$ $x < 4$ <p>x can be any value that is less than 4</p>	U509, U759, U738, U145, U337.
6	Factorising and solving quadratic equations	<p>When a quadratic expression is in the form $x^2 + bx + c$ find the two numbers that add to give b and multiply to give c.</p>	$x^2 + 2x - 8 = (x + 4)(x - 2)$ <p>(because +4 and -2 add to give +2 and multiply to give -8)</p>	U768, U365, U178, U963, U228.

